

AGS Cold Snake Status and Plan

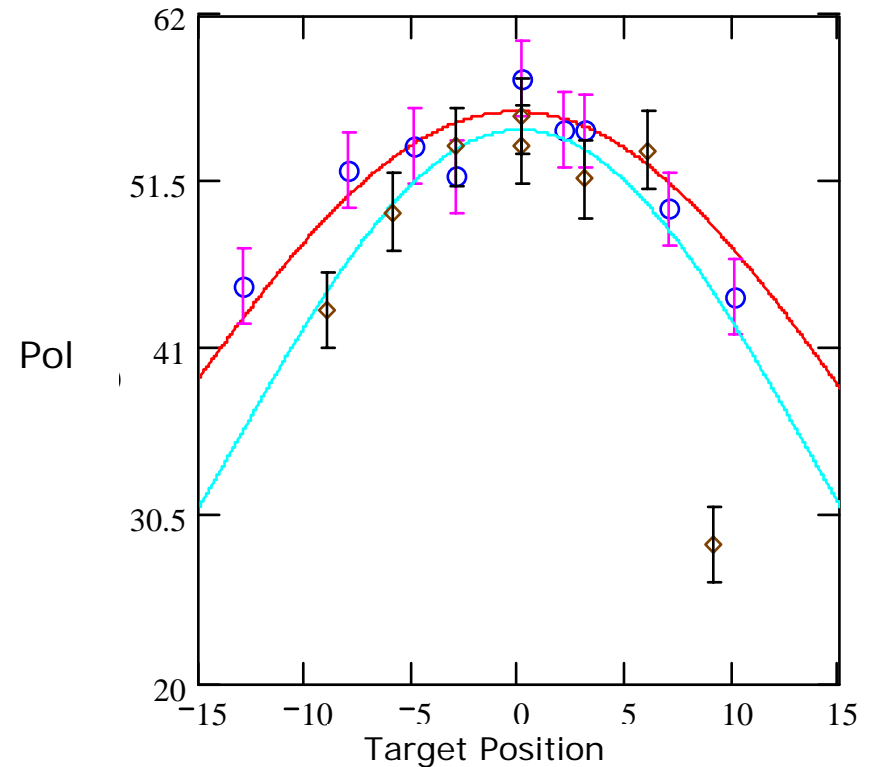
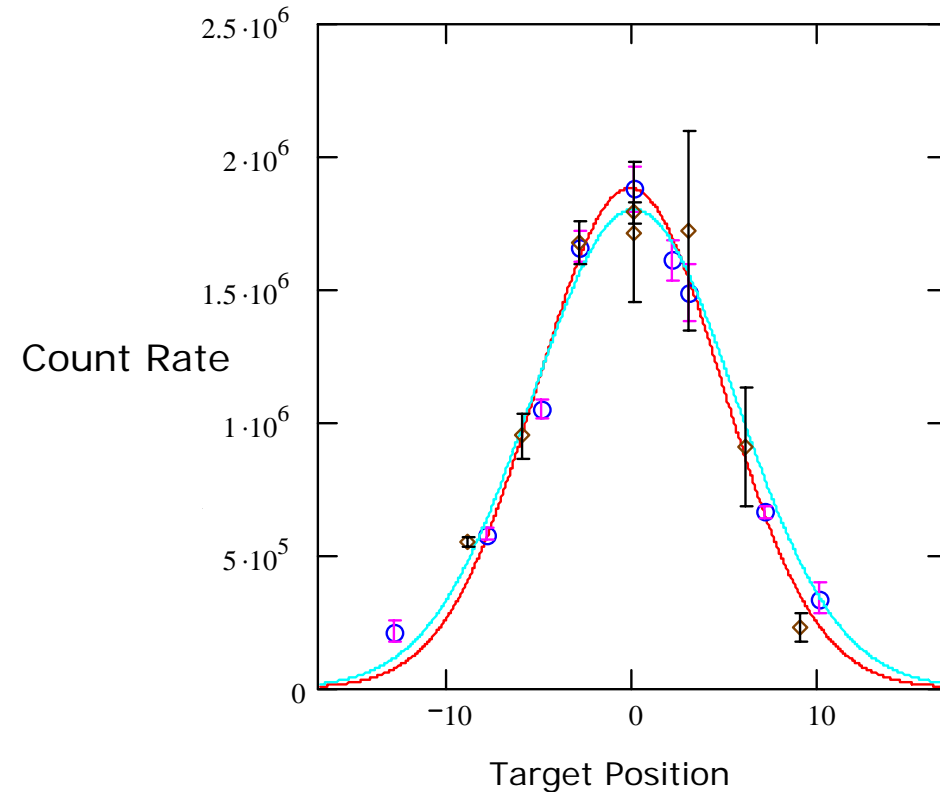
Haixin Huang

Mar 17, 2006
RSC meeting



Polarization Profiles

(Fanglei)

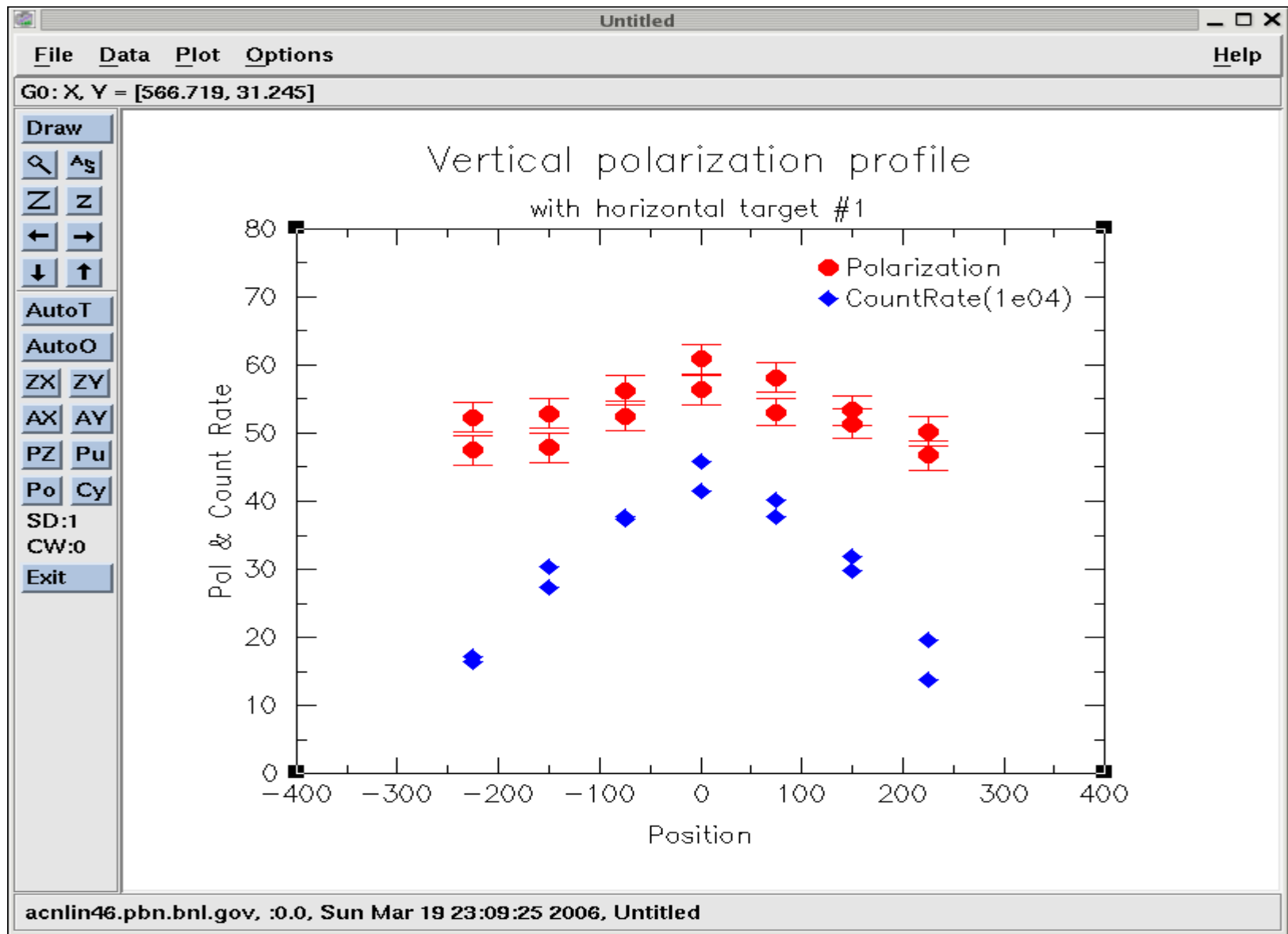


10% CSNK + 5.9% WSNK : red curve and magenta error bar

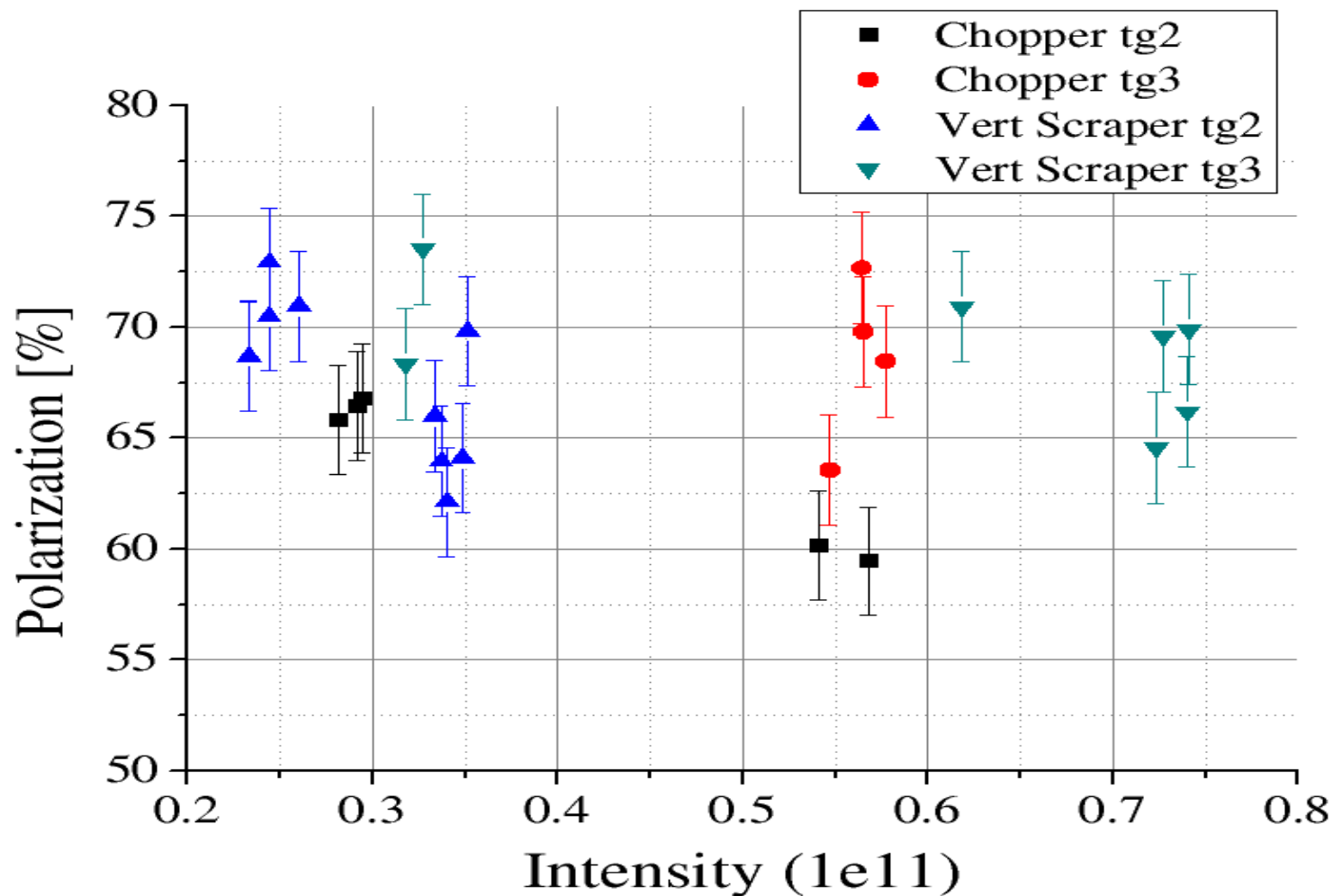
15% CSNK + 5.9% WSNK : cyan curve and black error bar

(Intensity $1.0 \cdot 10^{11}$ proton/bunch)

AGS Vertical Polarization Profile



Intensity Scans



Status and Plan

- 10% AGS cold snake strength gives polarization around 60%. We are going to work on tunes to see if additional improvement can be made on polarization.
- Control both transverse emittances is the key to maintain polarization at 60% level.
- Use vertical scraping instead of horizontal scraping in the Booster. The actual scraping effect is seen in both planes. Additional polarization gain can be obtained by raise source Rubidium temperature and scrape harder.
- Study the vertical polarization profiles.
- Set up the machine with horizontal tune close to 8 (at least at low energies). First with $\nu_y=9.1$ and $\nu_x=8.3$. Then lower ν_x to close to 8.05. We will set it up in a different AGS user. The challenges: quad P/S limit; coupling between horizontal and vertical; horizontal tune swing at higher energies.